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Report Title

Concepts in Electromagnetic Scattering for Particulate-Systems Characterization

ABSTRACT

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From the success of the Memphis meeting, it became clear that the broader international community could benefit from a special issue with the same theme. Invited and volunteered contributions were solicited that would focus collectively on research related to the characterization of small particles and systems of particles. In addition, this issue provides a formal outlet for participants of the meeting to present the highlights of their work. Over 20 manuscripts were selected, including three invited reviews from leaders in the field. Acceptance of the manuscripts was based on the rigorous peer review process that is standard for JQSRT. We express our deep gratitude to the many experts who volunteered their time and effort to evaluate the scientific merit of these contributions.

We also express our gratitude for the support and advice from the Editors-in-Chief and technical staff of JQSRT. We thank the U.S. Army Research Office for funding the Memphis meeting and Nava Subedi of Mississippi State University for assistance with the meeting organization.

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Preface

Concepts in electromagnetic scattering for particulate-systems characterization

This Special Issue was inspired by the workshop "Concepts in Electromagnetic Scattering for Particulate-Systems Characterization" that was held in Memphis, TN in May, 2012. The purpose of the meeting was to bring together experts in the field of electromagnetic scattering to discuss questions related to basic science research aimed at the characterization of particulate media. Cutting-edge research in both theoretical and experimental contexts was sought. The overarching goal of the workshop was to identify the avenues of research that would be most promising to advance the state-of-the-art through coordinated, interdisciplinary research efforts. In all, 20 scientists attended and 19 presentations were given. Specific topics included remote sensing, polarimetry, analytic and numeric electromagnetic theory, camouflage in nature, wavefront shaping, optical binding, single-particle fluorescence cavity ringdown, and digital holography of aerosols.

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Scientific Organizing Committee

Matthew Berg, Chair (Mississippi State University, Department of Physics and Astronomy)

Gorden Videen (US Army Research Laboratory)

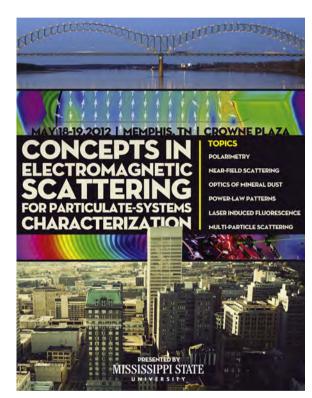


Fig. 1. Conference booklet cover for workshop "Concepts in Electromagnetic Scattering for Particulate-Systems Characterization" held in May 2012 in Memphis, TN, USA.

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